





FIG. 2

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Main Menu   **Get a Quote/Account**   Account   Mask Order   Info   Feedback  
Help   Logout

Please choose from the menu of choices below.

**New Customers**

**Get a Quote/Account**

21 Choose this link if you are a new customer and do not have an account and password yet. It allows you to request a new quote, and/or request an Order Form account.

**Existing Customers**

Enter your user name and password, choose a task, and click the "Go" button.

User Name:

Password:

I want to: **Create a New Order**  22

All transactions are protected with SSL, the strongest browser encryption technology available on the web.

NETWORK-BASED PHOTOMASK DATA ENTRY  
INTERFACE & INSTRUCTION GENERATOR FOR  
MANUFACTURING PHOTOMASKS

Atty Dkt: 064441 0285

Inventors: Jeffrey S. Schepp et al.

Filing Date: 9/8/2003

Sheets: 3 of 12

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Main Menu Get a Quote/Account Account Mask Order Info Feedback  
Help Logout

Instructions General Layers Patterns Placements Fractures Business Submit

Please create your new order by completing as thoroughly as possible the following fields, then pressing the "Save and Forward" button to progress to *Layer Information*, the next step of the Mask Order Wizard.

To get help for any field, hold your mouse cursor over that field's help icon (Ⓢ).

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Other Methods For Working With Orders

Reload an In-progress Order:

Create New Order Based On Old:

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← Create And Back Create And Stay

Create And Forward →

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Customer Information

Customer:  Ⓢ

Fab:  ?

Contact Name:  Ⓢ

Phone:  Ⓢ

Fax:  Ⓢ

E-mail:  Ⓢ

Quality Control

Defect Criteria:  Ⓢ

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Documentation

Plot Size:  Ⓢ

TO FIG. 3B  
FIG. 3A

FIG. 3B  
 FROM FIG. 3A

**Required Order Information**

This information is required immediately in order to accurately generate the layer & pattern information screens.

Device:  ?

Number of Layers:  ?

Number of Unique Device Patterns:  ?

**Tooling and Materials**

Product Type:  ?

Other:

Glass Type:  ?

Glass Size & Thickness:  ?

Coating:  ?

Reflectivity:  % ?

**Pellicles**

Chrome-side?  No ?

Glass-side?  No ?

Stepper Manufacturer:  ?

Other:

Stepper Model:  ?

Chrome-side Part Number:  ?

Glass-side Part Number:  ?

**Compacts**

Compact Part Number:  ?

← Create And Back

Create And Stay

Create And Forward →

? =Optional for order
ⓧ =Required for submit, optional for this screen
ⓧ =Required for this screen

**Main Menu** **Get a Quote/Account** **Account** **Mask Order**

**Instructions** **General** **Layers** **Patterns** **Placements** **Fractures** **Business**

**Info** **Help** **Feedback** **Logout**

**Submit**

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**TestCompany**

**View summary**

**In Progress**

Please complete the information for each layer, and press the "Save and Forward" button to progress to *Pattern Identification*.

*If the number of layers that appear on this screen is wrong, please return to the Basic Info Screen and correct the number of layers, then return to this screen.*

Layers 1 - 1 of 1

Layer	Mask Title	Barcode Text	Reg Tolerance	Defect Size	Defect Density	Mask Parity	Title Parity
1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	?	?	?	?	?	?	?

**Barcode Type:**

Max Barcode Text Length:

**Parity Examples:**

Right Reading: Right Reading

Wrong Reading: gnihsaR gnaw

**← Save And Back** **Save And Stay** **Save And Forward →**

**← Save And Back** **Save And Stay** **Save And Forward →**

Ⓟ = Optional for order

Ⓟ = Required for this screen, optional for this screen

FIG. 4

Main Menu

Get a Quote/Account

Account

Mask Order

Info

Feedback

Help

Logout

Instructions

General

Layers

Patterns

Placements

Fractures

Business

Submit

TestCompany

View summary

In Progress

Please complete the information for each distinct pattern, and press the "Save and Forward" button to progress to *Pattern Placement*.

*If the number of patterns or layer information is wrong, please return to the General Info Screen and correct the number of distinct patterns, then return to this screen.*

← Save And Back

Save And Stay

Save And Forward →

Patterns 1 - 1 of 1  
 Layers 1 - 1 of 1

Pattern #1	Pattern Name:		Ⓢ	Fracture Required?		Ⓢ
Layer	Number of Placements	Address Units Out (μ)	Final CD Size(μ)	CD Tolerance (μ)	CD Digitized?	Digitized Data Tone
1				+/-		
Patent application				?		

← Save And Back

Save And Stay

Save And Forward →

Ⓢ =Optional for order    Ⓢ =Required for submit, optional for this screen    Ⓢ =Required for this screen

FIG. 5

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Main Menu	Get a Quote/Account	Account	Mask Order	Info	Feedback
				Help	Logout
Instructions	General	Layers	Patterns	Placements	Fractures
Business	Submit				

TestCompany
View summary
In Progress

Please fill in the X and Y coordinates (in microns from the center of the mask, where the center is defined as 0,0) for every placement in each layer, and press the "Save and Forward" button to progress to *Fracture Information*.

*If the number of placements for any layer on this screen is wrong, please return to the Layer Info Screen and change the number of placements, then return to this screen.*

← Save And Back
Save And Stay

Save And Forward →

Layers 1 - 1 of 1

Layer Pattern      Placements ( Array to-- →  columns)

1 Patent Application

Prime-1

Placement 1

Xμ

Yμ

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← Save And Back
Save And Stay

Save And Forward →

Field Help

X & Y	Ⓢ	X-values and Y-values are in microns from the center of the mask (where the center is defined as 0,0) and thus can be positive or negative. X- and Y-values for all placements must be completed before the order can be submitted, but can be left blank for the time being if necessary.
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Ⓢ = Optional for order
Ⓢ = Required for submit, optional for this screen
Ⓢ = Required for this screen

FIG. 6

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Main Menu	Get a Quote/Account	Account	Mask Order	Info	Feedback
				Help	Logout
Instructions	General	Layers	Patterns	Placements	Fractures
				Business	Submit

TestCompany View summary In Progress

Please complete the fracture information for every fracture pattern, and press the "Save and Forward" button to progress to *Chip Placement*.

For patterns that are not fractures, you will have to provide a pattern file in either MEBES or CFLT format.

*If the number of patterns that are fractures on this screen is wrong, please return to the Pattern Specification Screen and change the Fracture Required values, then return to this screen.*

← Save And Back
Save And Stay

Patterns 1 - 1 of 1
Save And Forward →
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Pattern	Fracture?	Database Name	Top Structure	Data Scale Out
1 Prime-1	Yes	<input type="text"/>	<input type="text"/>	<input type="text"/>

GDS V

Layers

Layer 1 GDS Layers

Patent

Application

Window Limits V

(μ)

Lower Left

X  Y

Upper Right

X  Y

← Save And Back
Save And Stay

Save And Forward →

V =Optional for order   
 V =Required for submit, optional for this screen   
 V =Required for this screen

FIG. 7



NETWORK-BASED PHOTOMASK DATA ENTRY  
INTERFACE & INSTRUCTION GENERATOR FOR  
MANUFACTURING PHOTOMASKS

Atty Dkt: 064441.0285

Inventors: Jeffrey S. Schepp et al.

Filing Date: 9/8/2003

Sheets: 9 of 12

FIG. 8

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<b>Main Menu</b>		<b>Get a Quote/Account</b>		<b>Account</b>		<b>Mask Order</b>		<b>Info</b>		<b>Feedback</b>	
								<b>Help</b>		<b>Logout</b>	
<b>Instructions</b>		<b>General</b>		<b>Layers</b>		<b>Patterns</b>		<b>Placements</b>		<b>Fractures</b>	
<b>Business</b>		<b>Submit</b>									

TestCompany
[View summary](#)
In Progress

Please complete the business information for your order, and press the "Save and Forward" button to progress to *Submit Order*.

← Save And Back
Save And Stay
Save And Forward →

Billing Information	Shipping Information (same as billing)
PO Number: <input type="text"/> ?	Street Address: <input type="text"/> ?
Street Address: <input type="text"/> ?	<input type="text"/> ?
City: <input type="text"/> ?	City: <input type="text"/> ?
State: <input type="text"/> ?	State: <input type="text"/> ?
Country: <input type="text"/> ?	Country: <input type="text"/> ?
Postal Code: <input type="text"/> ?	Postal Code: <input type="text"/> ?
Contact Name: <input type="text"/> ?	Contact Name: <input type="text"/> ?
Phone: <input type="text"/> ?	Phone: <input type="text"/> ?
Fax: <input type="text"/> ?	Fax: <input type="text"/> ?
Email: <input type="text"/> ?	E-mail: <input type="text"/> ?

Other Order Information

Expected Delivery:  ?

Comments/Instructions:  ?

← Save And Back
Save And Stay
Save And Forward →

? = Optional for order      ? = Required for submit, optional for this screen      ? = Required for this screen

FIG. 9

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Main Menu	Get a Quote/Account	Account	Mask Order	Info	Feedback		
				Help	Logout		
Instructions	General	Layers	Patterns	Placements	Fractures	Business	Submit
TestCompany RR			View summary		Validated		

**Congratulations!**  
Your order has been validated to contain all necessary information.

**Submit the order**  
Click the button at the bottom of the screen to transmit the order information. You may then FTP the data files for the order.

*You must click the button to submit the order. Once you click the button, you will not be able to change any of the order information using the Order Form. Instead, you will have to talk to a customer service representative to change any order information.*

→ **FINALIZE ORDER AND SUBMIT** ←

<b>General Order Information</b> Sales order: Site: Customer: Contact:		<b>Business Information</b> Billing information:	
Fab: Device: Product: Type: Glass: Type: Glass Size: Coating: Defect: Criteria: Plot Size: Pellicle: Chrome? Pellicle: Glass? Stepper: Compact: Part: Delivery: Comments:		Shipping information:	
		Manufacturer-specific Information:	

  

#	Mask Name	Barcode Text	Registration Tolerance	Defect Size	Defect Density	Mask Parity	Title Parity
1	SYSTEM TEST 1	KDKDKOK	0.150 um	1.0 um	0 def/sq.in	Wrong Reading	Wrong Reading
2	SYSTEM TEST 2	HSHSHSH	0.250 um	0.75 um	1 def/sq.in	Right Reading	Right Reading

Layers

FIG. 10A

TO FIG. 10B

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Atty Dkt: 964441.0285

Inventors: Jeffry S. Schepp et al.

Filing Date: 9/8/2003

Sheets: 12 of 12

FIG. 10B

FROM FIG. 10A

Distinct Patterns

Pattern #	Pattern Name	Address Units Out	Final CD Size	Final CD Tolerance	CD Digitized	Digitized Tone	Fracture Database Name	Top Structure	GDS Layers	Data Scale Out	Window Limits
1	Prime-1-1	0	1	0	Yes	Dark	JEFF.GDS	MAIN	1,3,5,7	1	(-12000, -15000) (12000, 15000)
2	Scribe-2-2	0	1	0	No	Clear	JEFF.GDS	TOP	2,4,6,8	1	(-10000, -9000) (10000, 9000)

Placement of Patterns on Layers

Layer #	Mask Title	Pattern	X	Y
1	SYSTEM TEST 1		14000	9000
		Scribe-2-2		
			16000	10000
2	SYSTEM TEST 2			
		Scribe-2-2		
			13256	14859